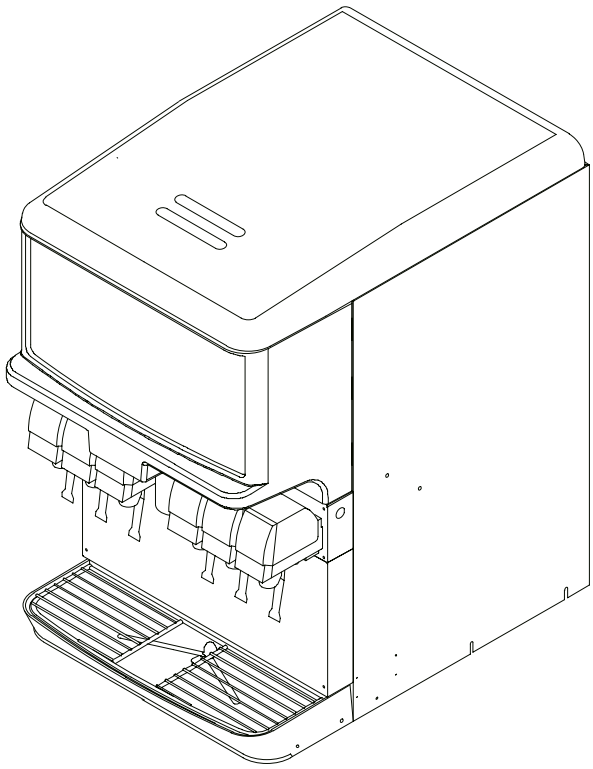
CORNELIUS INC

www.cornelius.com

ICE/BEVERAGE DISPENSER

MODEL: TRIAD–150

Operator's Manual



Release Date: May 01, 1998
Publication Number: 620911101
Revision Date: May 07, 2014
Revision: D

THIS DOCUMENT CONTAINS IMPORTANT INFORMATION

This Manual must be read and understood before installing or operating this equipment

© CORNELIUS INC; 1998-2014

PRINTED IN U.S.A

TABLE OF CONTENTS

	Page
MAINTENANCE	**1**
DAILY (OR AS REQUIRED)	1
WEEKLY (OR AS REQUIRED)	1
MONTHLY	1
START-UP & OPERATING INSTRUCTIONS	1
CLEANING INSTRUCTIONS	1
DISPENSER	2
BEVERAGE SYSTEM (IF APPLICABLE)	3
TROUBLESHOOTING	**5**
BLOWN FUSE OR CIRCUIT BREAKER.	5
GATE DOES NOT OPEN. AGITATOR DOES NOT TURN.	5
GATE DOES NOT OPEN OR IS SLUGGISH. AGITATOR TURNS.	5
ICE DISPENSES CONTINUOUSLY.	5
SLUSHY ICE. WATER IN HOPPER.	5
BEVERAGES DO NOT DISPENSE.	5
BEVERAGES TOO SWEET.	5
BEVERAGES NOT SWEET ENOUGH.	6
BEVERAGES NOT COLD (UNITS WITH BUILT-IN COLD PLATE).	6
PARTS LIST / EXPLODED VIEW	**7**
CABINET SECTION PARTS LIST	9
ELECTRICAL BOX ASSEMBLY	11
SOLENOID ASSEMBLY	12
DRAIN	13

LIST OF FIGURES

FIGURE 1. CABINET SECTION EXPLODED VIEW	8
FIGURE 2. ELECTRICAL BOX ASSEMBLY EXPLODED VIEW	11
FIGURE 3. SOLENOID ASSEMBLY	12
FIGURE 4. DRAIN FOR Z STYLE UNITS	13

MAINTENANCE

The following dispenser maintenance should be performed at the intervals indicated:

DAILY (or as required)

Remove foreign material from vending area drip tray to prevent drain blockage.

WEEKLY (or as required)

Clean vending area. Check for proper water drainage from the vending area drip tray.

MONTHLY

Clean and sanitize the hopper interior and beverage system, if applicable (see CLEANING INSTRUCTIONS).

START-UP & OPERATING INSTRUCTIONS

Fill the hopper with ice. Dispense several large cups of ice (approximately 20 to 30 seconds total dispensing time) to allow ice to fill the cold plate cabinet. Add ice to the hopper as necessary to refill and replace the lid. Allow 10 to 15 minutes for the cold plate to cool down. Repeat this procedure whenever the dispenser has run out of ice. Start up the beverage system and adjust faucets to the proper brix. Contact your local syrup distributor for complete information on the beverage system.

In normal operation, pushing the ice dispenser mechanism will cause ice to flow from the ice chute. Ice flow will continue until the dispenser mechanism is released. Dispensing of any faucet will provide beverage of the appropriate flavor.

CAUTION: Use caution to avoid spilling ice when filling dispenser. Clean up immediately any spilled ice from filling or operating the unit. To prevent contamination of ice, the lid must be installed on the unit at all times.

If the dispenser fails to dispense ice or beverage see troubleshooting guide.

CLEANING INSTRUCTIONS

WARNING: Disconnect Power Before Cleaning! Do not use metal scrapers, sharp objects or abrasives on the ice storage hopper, top cover and the agitator disk, as damage may result. Do not use solvents or other cleaning agents, as they may attack the plastic material.

Soap solution - Use a mixture of mild detergent and warm (100 F) potable water.

Sanitizing solution - Use 1/2 ounce of household bleach in 1 gallon of potable water. Preparing the sanitizing solution to this ratio will create a solution of 200 PPM.

DISPENSER

1. **CLEANING EXTERIOR SURFACES**

Important: Perform the following daily.

A. Remove the cup rest from drip tray.

B. Wash the drip tray with soap solution. Rinse with clean water and allow solution to run down the drain.

C. Wash cup rest with soap solution and rinse in clean water. Install the cup rest into the drip tray.

D. Clean all exterior surfaces with soap solution and rinse in clean water.

2. **COLD PLATE INSPECTION BEFORE CLEANING**

A. Remove splash panel.

B. Remove the plastic cold plate cover to expose the cold plate.

C. Locate and remove any debris from the cold plate, drain trough and make certain that the drain holes are not clogged.

D. Reinstall the cold plate cover.

E. Reinstall the splash panel in the reverse order in which it was removed.

3. **CLEANING INTERIOR SURFACES**

CAUTION: When pouring liquid into the hopper, do not exceed the rate of 1/2 gallon per minute.

Important: Perform the following at least once a month.

A. Remove agitator assembly.

B. Using a long handle nylon bristle brush, clean the interior of the hopper, top, cover and cold plate with soap solution. The cold plate can be reached by going through the ice opening on the hopper bottom. Make certain to reach the entire surface of the cold plate including the corners. Clean the agitator assembly with soap solution using a nylon brush or a sponge. Thoroughly rinse the hopper, top cover, agitator and cold plate surfaces with clean potable water.

C. Remove merchandiser and ice chute cover from dispenser.

D. With a nylon bristle brush or sponge, clean the inside of the ice chute, gasket and cover with soap solution and rinse thoroughly to remove all traces of detergent.

E. Re-assemble Agitator assembly. Take special care to ensure that the thumbscrew is tight.

F. Using a mechanical spray bottle filled with sanitizing solution, spray the entire interior and agitator assembly. Allow to air dry.

G. Re-assemble ice chute assembly.

H. Using a mechanical spray bottle filled with sanitizing solution, spray the inside of the ice chute. Allow to air dry.

I. Reinstall merchandiser.

BEVERAGE SYSTEM (IF APPLICABLE)

WARNING: Disconnect Power Before Cleaning! Do not use metal scrapers, sharp objects or abrasives on the ice storage hopper, top cover and the agitator disk, as damage may result. Do not use solvents or other cleaning agents, as they may attack the plastic material.

Soap solution - Use a mixture of mild detergent and warm (100 F) potable water.

Sanitizing solution - Use 1/2 ounce of household bleach in 1 gallon of potable water. Preparing the sanitizing solution to this ratio, the required solution of 200 PPM will be obtained.

Cleaning tank - Fill clean, empty tank with a mixture of mild detergent and five (5) gallons of warm potable water (120°F).

1. **DISPENSING VALVES**

Refer to addendum supplied with the unit that is applicable to the manufacturer of the valves installed on the unit.

2. **PRODUCT TUBING**

Only trained and qualified persons should perform these cleaning and sanitizing procedures.

A. **Sanitize tank systems, Post-Mix and Pre-Mix**

a. Remove all the quick disconnects from all the tanks. Fill a suitable pail or bucket with soap solution.

b. Submerge all disconnects (gas and liquid) in the soap solution and then clean them using a nylon bristle brush. (**Do not use a wire brush**). Rinse with clean water.

c. Prepare sanitizing solution and using a mechanical spray bottle, spray the disconnects. Allow to air dry.

d. Using a clean, empty tank, prepare five (5) gallons of the sanitizing solution. Rinse the tank disconnects with approximately 9 oz. of the sanitizing solution. Close the tank.

e. Prepare cleaning tank by filling clean five (5) gallon tank with a mixture of mild detergent and potable water (120°F).

f. Connect a gas disconnect to the tank and then apply one of the product tubes to the cleaning tank. Operate the appropriate valve until liquid dispensed is free of any syrup.

g. Disconnect cleaning tank and hook up sanitizing tank to syrup line and CO_2 system.

h. Energize beverage faucet until chlorine sanitizing solution is dispensed through the faucet. Flush at least two (2) cups of liquid to ensure that the sanitizing solution has filled the entire length of the syrup tubing.

i. Allow sanitizer to remain in lines for fifteen (15) minutes.

j. Repeat the step above, applying a different product tube each time until all tubes are filled with the sanitizing solution.

k. For post-mix valves, remove the nozzle and syrup diffuser and clean them in a mild soap solution. Rinse with clean water and reassemble the nozzle and syrup diffuser to the valve.

l. For pre-mix valves, disconnect all product tubes from the tank of sanitizing solution and then open the valves to allow the pressure to be relieved. Remove the valves from the dispenser, disassemble and wash thoroughly in a mild soap solution.

m. Rinse the parts in clean water, reassemble the valve and reconnect it to the dispenser.

n. Discard the tank of sanitizing solution and reconnect the product (syrup or pre-mix) tanks. Operate the valves until all sanitizer has been flushed from the system and only product (syrup or pre-mix) is flowing.

B. **Sanitize syrup lines, B-I-B Systems**

a. Remove all the quick disconnects from all the B-I-B containers.

b. Fill a suitable pail or bucket with soap solution.

c. Submerge all disconnects (gas and liquid) in the soap solution and then clean them using a nylon bristle brush. (**Do not use a wire brush**). Rinse with clean water.

d. Using a plastic pail, prepare approximately five (5) gallons of sanitizing solution.

e. Rinse the B-I-B disconnects in the sanitizing solution.

f. Sanitizing fittings must be attached to each B-I-B disconnect. If these fittings are not available, the fittings from empty B-I-B bags can be cut from the bags and used. These fittings open the disconnect so the sanitizing solution can be drawn through the disconnect.

g. Place all the B-I-B disconnects into the pail of sanitizing solution. Operate all the valves until the sanitizing solution is flowing from the valve. Allow sanitizer to remain in lines for fifteen (15) minutes.

h. Remove the nozzle and syrup diffuser from each valve and clean them in a soap solution. Rinse with clean water and reassemble the nozzle and syrup diffuser to the valve.

i. Remove the sanitizing fittings from the B-I-B disconnects and connect the disconnects to the appropriate B-I-B container. Operate the valves until all sanitizer has been flushed from the system and syrup is flowing freely.

TROUBLESHOOTING

IMPORTANT: Only qualified personnel should service internal components or electrical wiring.

WARNING: If repairs are to be made to a product system, remove quick disconnects from the applicable product tank, then relieve the system pressure before proceeding. If repairs are to be made to the CO_2 system, stop dispensing, shut off the CO_2 supply, then relieve the system pressure before proceeding. If repairs are to be made to the refrigeration system, make sure electrical power is disconnected from the unit.

Should your unit fail to operate properly, check that there is power to the unit and that the hopper contains ice. If the unit does not dispense, check the following chart under the appropriate symptoms to aid in locating the defect.

Trouble	Probable Cause
BLOWN FUSE OR CIRCUIT BREAKER.	A. Short circuit in wiring. B. Defective gate solenoid. C. Defective agitator motor.
GATE DOES NOT OPEN. AGITATOR DOES NOT TURN.	A. No power. B. Bent depressor plate (does not actuate switch). C. Defective dispensing switch.
GATE DOES NOT OPEN OR IS SLUGGISH. AGITATOR TURNS.	A. Defective gate solenoid. B. Excessive pressure against gate slide. C. Defective rectifier.
ICE DISPENSES CONTINUOUSLY.	A. Stuck or bent depressor plate (does not release switch). B. Defective dispensing switch. C. Improper switch installation.
SLUSHY ICE. WATER IN HOPPER.	A. Blocked drain. B. Unit not level. C. Poor ice quality due to water quality or icemaker problems. D. Improper use of flaked ice.
BEVERAGES DO NOT DISPENSE.	A. No 24 volt power to faucets. B. No CO_2 pressure.
BEVERAGES TOO SWEET.	A. Carbonator not working. B. No CO_2 pressure in carbonator. C. Faucet brix requires adjusting.

Trouble	Probable Cause
BEVERAGES NOT SWEET ENOUGH.	A. Empty syrup tank.
	B. Faucet brix requires adjusting.
BEVERAGES NOT COLD (UNITS WITH BUILT-IN COLD PLATE).	A. Unit standing with no ice in hopper – no ice in cold plate cabinet.

Contact your local syrup or beverage equipment distributor for additional information and troubleshooting of beverage system.

PARTS LIST / EXPLODED VIEW

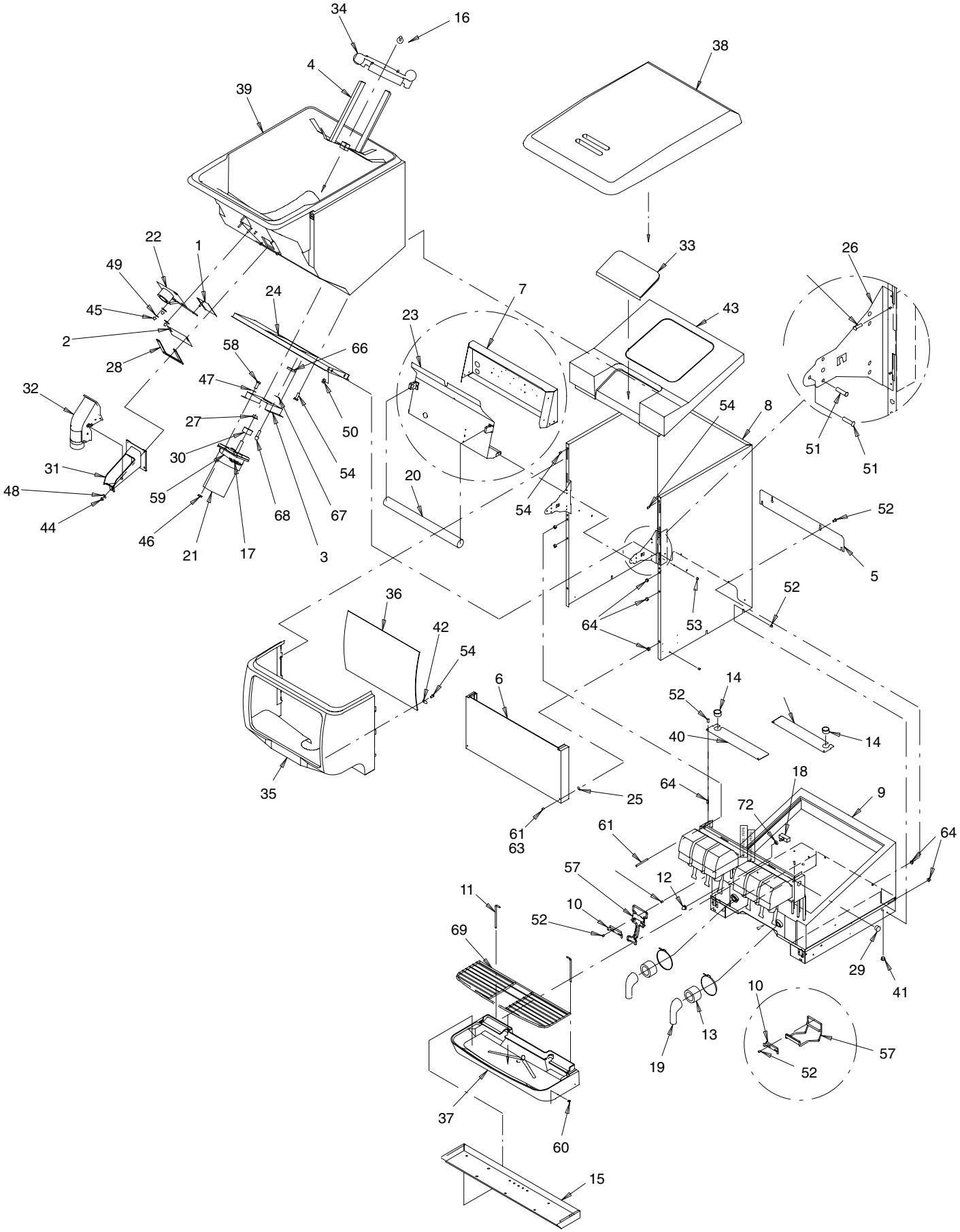


FIGURE 1. CABINET SECTION EXPLODED VIEW

CABINET SECTION PARTS LIST

Index No.	Part No.	Name
1	21491	Gate Slide
2	22081	Gate Restrictor
3	29303R	Plate, Motor Mounting
4	15346	Agitator Assy
5	29483	Cover, Rear Wrapper
6	Contact Sales	Lower Panel Assy
7	620019001	Electrical Box
8	29313	Wrapper
9	Contact Sales	Panel C/P Faucet Assy
10	27107	Bracket, Depressor Mtg.
11	10145	Pin, Drip Tray Mounting
12	31007	Switch Boot (Clear)
13	50099	Insulation, Cold Plate Drain
14	50767	Heyco Snap Bushing
15	620034009	Drip Tray lift Out
16	15087	Retainer, Agitator
17	30794	Motor Heater, 115 Volt
	32826	Motor Heater, 230 Volt
18	30895	Dispense Switch
19	53011	Coldplate Drain Elbow
20	31622	Bulb-Daylight 10”
21	32498	Agitator Motor DB150, 115 Volt
	32824	Agitator Motor DB 150, 230 Volt
22	32954	Solenoid Assembly, 115 Volt
	33409	Solenoid Assembly, 230 Volt
23	620019101	Reflector Panel
24	29304	Bracket, Motor Mounting
25	71010	Washer, Captivating No. 8
26	620019701	Hinge, Gusset
27	51859	Seal Motor Shaft
28	51891	Gasket, Gate
29	51908	Plug, Heyco D
30	52876	Gasket, Motor Shaft
31	620500901	Ice Chute
32	53168	Ice Chute Cover
33	53241	Cold Plate Access Cover
34	53227	Agitator Disk
35	620506702	Merchandiser, Gray
36	84146040	Panel, Plexiglass, Inner
37	62050850	Foamed Sink Assy, Gray
38	53019	Lid, Dispenser, Gray
39	52872	Hopper Assy., Foamed
40	15437	Baffle, Wiring Encl.
41	52967	Plug, Plastic
42	52972	Flush Nylon Clip (Graphics)
43	53236	Cover C.P. Foamed
44	70016	# 10-32 Hex Nut 18-8SS
45	70017	# 10-32 Nylon Insert Locknut
46	70018	Nut, 1/4-20 Keps
47	70048	1/4 Int. Tooth Lockwasher
48	70056	No. 10 Flatwasher SS
49	70067	7/32 I.D. x 7/8 O.D. x 3/64 Thk Washer
50	70076	# 8-32 Keps Nut

CABINET SECTION PARTS LIST (CONT'D)

51	70456	3/16 Pop Rivet
52	70171	# 8-32 x 3/8 Phil. Truss
53	70178	# 8-32 x 1/2 Phil. Truss
54	70204	# 8 x 1/2 A S.S. Phil. Truss
55	71089	Shoulder Screw
56	70250	1/4-20 Truss HD Phil Screw SS
57	15501 15500	Push Lever, Ice Dispense Lever Ass'y (Cup Activated)
58	70260	1/4-20 x 1 Phil RD HD S.S. Screw
59	70341	Gate Slide/Motor Heater Spring
60	70478R	Clip, Push On
61	70555	# 8-32 x 2-5/8 Phil. Truss
62	70750	Hose Clamp, Worm (Not Shown; for Drip Tray Drain)
63	71006	8-32 x 2-1/8 Phil. Truss Screw(Only used on Units with Lancer Valves)
64	70959	# 8-32 Hex Nutsert
65	71011 70970	Cast Leg (Not Shown) Cast Leg, Black (Not Shown)
66	70992	1/4 Turn Receptacle
67	70993	1/4 Turn Retainer
68	70994	1/4 Turn Stud Head
69	71036	Cup Rest
70	620029501	Adapter, 1" Barb x 3/4 M.P.T. (Not Shown)
71	50952	Adapter, 3/4 soc x 3/4 F.P.T. (Not Shown)
72	70847	Washer, Switch Spacer
73	53299	Flush Nylon Clip
74	620505201	Hopper Foam Shield
75 *	620702201	Cold Plate Cleaning Brush
N/A*	84146040	CC Graphic

NOTE: * Not Shown

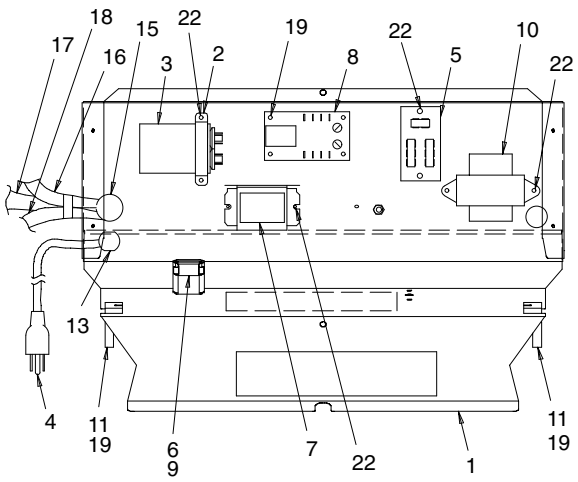


FIGURE 2. ELECTRICAL BOX ASSEMBLY EXPLODED VIEW

ELECTRICAL BOX ASSEMBLY

Item No.	Part No.	Name
1	620303301	E-Box Ass'y, 115V (Ice only)
	620302001	E-Box Ass'y, 115V (B and BC Models)
	620302301	E-Box Ass'y, 220V (B and BC Models)
	620303302	E-Box Ass'y, 220V (Ice only)
2	30514	Clamp, Capacitor
3	30774	Capacitor, 120 Volt
	32831	Capacitor, 240 Volt
4	30995	Power Cord Assy, 120 Volt
	620302901	Power Cord Ass'y, 240 Volt
5	31107	Terminal Board
6	31620	Starter
7	31621	Ballast, 120 Volt
	33662	Ballast, 240 Volt
8	620314803	Timer, Repeat Cycle, 120 Volt
	620314802	Timer, Repear Cycle, 240 Volt
9	620302201	Socket, Starter
10	32682	Transformer, 120/24, 80VA
	32829R	Transformer, 240/24 80 VA
11	620302101	Lamp-holder
12	Not Used	
13	50458	Strain Relief Bushing
14	50459	Heyco Bushing
15	33615	Harness, Solenoid, 115V
	620301101	Harness, Solenoid, 220V
16	32782	Harness, Dispenser Switch
17	33617	Harness, Agitator Motor
18	70147	#6-32 x 1/2 Phil RD HD Screw
19	70153	#6-32 x 3/4 Phil RD HD Screw
20	70217	#8-32 x 1/2 Hex SL Washer HD
21	70120	# 10-32 x 1/2 Ground Screw, 115V
	70239	# 10-32 x 3/4 Ground Screw, 220V
22	70075	#6-32 Keps Nut
23	70015	#10-32 Keps Nut
24	32244	Terminal Strip, 220V (Not Shown)
25	620304601	VA Resistor, 220V (Not Shown)

SOLENOID ASSEMBLY

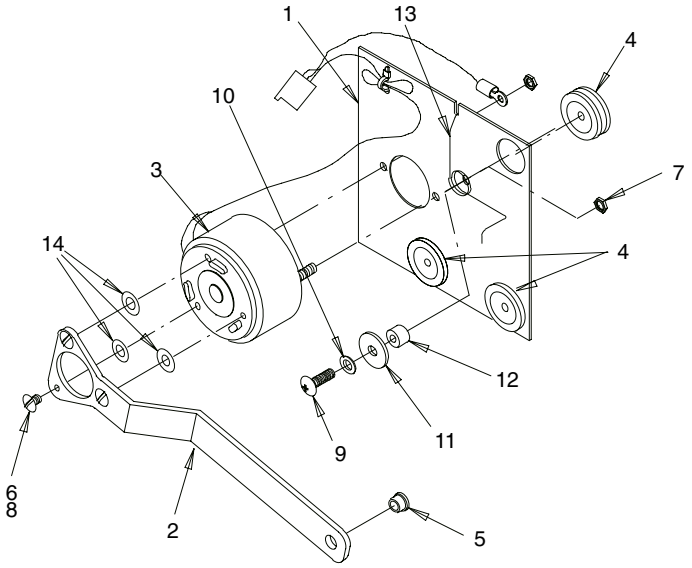


FIGURE 3. SOLENOID ASSEMBLY

Item No.	Part No.	Name
	32954	Gate Solenoid Ass'y, 120 Volt
	33397	Gate Solenoid Ass'y, 240 Volt
1	28172	Plate, Solenoid Mounting
2	28173	Arm, Gate Lift
3	32957	Solenoid
4	50752	Isolator
5	50754	Bearing, Gate Arm
6	70162	Screw, No. 8-32 By 1/4-In. Long
7	70015	Hex Nut, No. 10-32
8	51689	Locktite
9	70165	Screw, No. 8-32 By 5/8-In. Long
10	70057	Lockwasher, No. 10
11	70067	Washer, .218 I.D. By .875 O.D.
12	51348	Spacer
13	71007	Spring, Solenoid Arm
14	70052	Flatwasher, No. 8

DRAIN

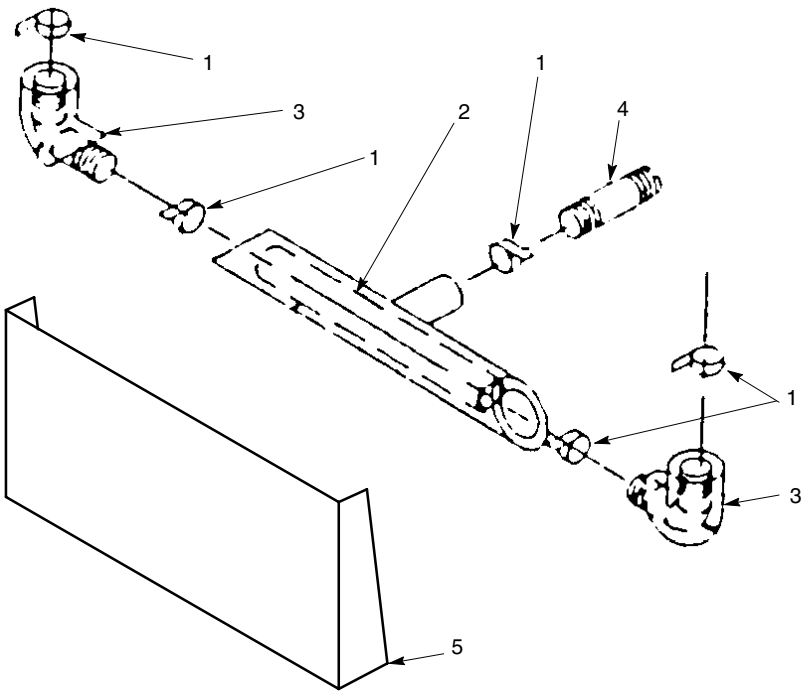


FIGURE 4. DRAIN FOR Z STYLE UNITS

Item No.	Part No.	Name
1	70750	Hose Clamp
2	53170	Drain Tube
3	51280	Elbow
4	53293	Coupler
5	Contact Factory	Lower Front Panel

CORNELIUS INC.

www.cornelius.com